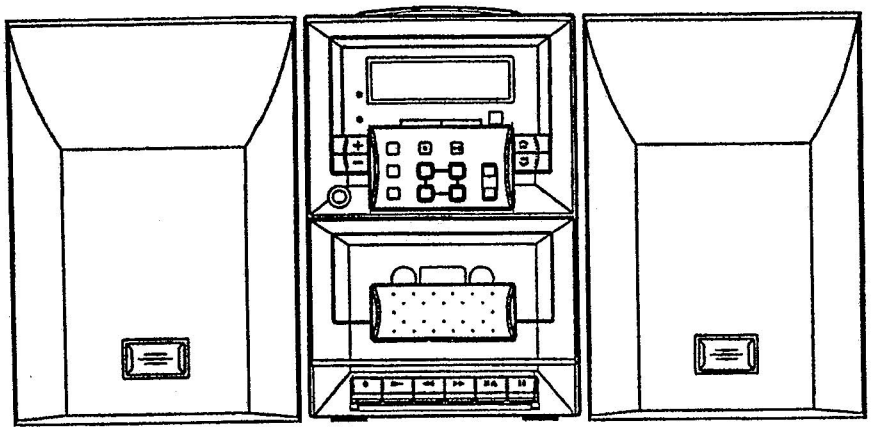
Profectis
Technischer Kundendienst

Technische Unterlage

Best.-Nr.:

100.992-7

ETNr. 2283976



UTS-Nr.:	999	QUELLE
Best.Nr.:	1009927/01	
Ger.Bez.:	UNIVERSUM MICRO-ANLAGE	
GKz:	G	GERAET
WGT:	650	MICRO-/MINI-ANLAGEN
KD-Sektor:	R	RUNDFUNK
BaumNr.:	00	KEIN DIAGNOSEBAUM VORHANDEN
Klassierung:	STK	STEREOKOMBINATION
IFW-FehlerGru.:	205	RDF.,VERST.,TB.,PHONO,CD,CB
Type/Privileg/Universum.Nr		VTC-CD1098
Beschreibung		RDS
VK-Preis: 269.00		
Serviceart:	01	UTS
Garantie fuer Kunden	12	Monate
Sondervereinbarungen:	0	SIEHE SERVICEART
Garantiereparatur	9999999	UTS
Sondervereinbarungen:	0	SIEHE SERVICEART

Technische Daten

Netzanschluß:
230 V ~ (+6 /-10%) 50 Hz

Leistungsaufnahme:
55 Watt max.

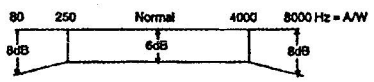
Abmessungen in cm.:
ca. Breite 14,5; Höhe 22,0; Tiefe 20,0

Verstärkerteil
Maximale Ausgangsleistung:
60 Watt (2x 30 Watt)
Lautsprechermindestimpedanz:
4 Ohm (Anschlußwert)
Übertragungsbereich:
von 40 Hz - 16 kHz (1,5 dB)

FM-Bereich (UKW)
87,5 - 108 MHz
Empfindlichkeit:
6 µV
Hub:
22,5 kHz und S/R - 26 dB:
Pilotunterdrückung:
19 kHz = 40 dB
38 kHz = 50 dB

MW-Bereich
522 - 1620 kHz
Empfindlichkeit:
1500 µV; 26 dB S/N

Tonbandteil
Übertragungsbereich Aufnahme und Wiedergabe



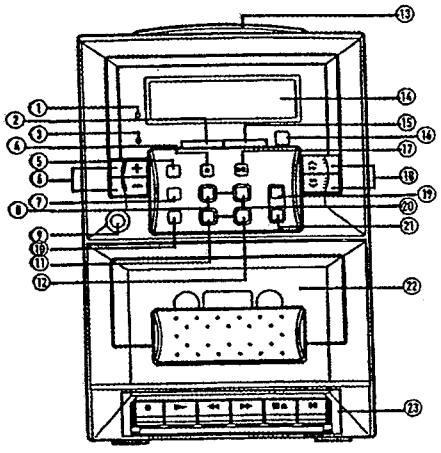
Geschwindigkeitsabweichung:
1,5 %
Tonhöhenschwankung:
0,3 %
Tonband:
Normalcassetten
80 Hz - 10.000 Hz
Geräuschspannungsabstand:
40 dB
Tonhöhenschwankung:
0,3 %

CD-Spieler
Optischer Tonabnehmer:
3-Strahlen-Laser
D/A-Umwandler

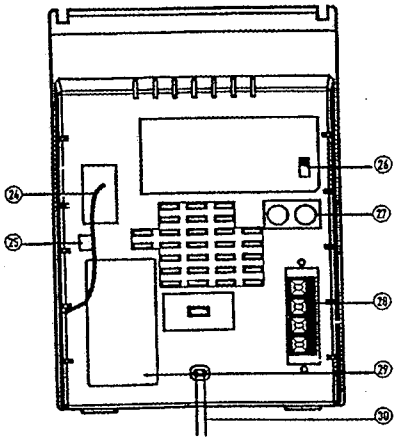
KAT. 995 **DATUM 28.03.2000** **SETIEN 20**

Bedienungselemente

Frontansicht



Rückseite



Bedienungselemente und Funktionen

① **ST.-BY** = Bereitschaftsanzeige

② **MEMORY** = Speichertaste
CLOCK = Stellen der Uhr-/Alarmzeit

③ **X-BASS** = Funktionsanzeige für Extra-Baßsystem

④ **STOP** ■ = Beendet die CD-Wiedergabe

⑤ **POWER** = Einschalten aus Bereitschaft

⑥ **VOLUME** = Lautstärkereglertasten
- = verringert die Lautstärke
+ = erhöht die Lautstärke

⑦ **INTRO** = Anspielen aller CD-Titel

⑧ **CD** = Umschalten auf CD-Betrieb

⑨ **PHONES** = Kopfhörerbuchse; 3,5 mm Ø Klinkenstecker, schaltet die Lautsprecher ab

⑩ **X-BASS** = Basssystem ein-/ausschalten

⑪ **AUX** = Wiedergabe vom Zusatzgerät

⑫ **TAPE** = Cassettenbetrieb

⑬ CD-Fachdeckel

⑭ Display

⑮ **BAND** = Bereichswahl;
FM = UKW, **MW** = Mittelwelle

⑯ **IR** = Fernbedienungsempfänger

⑰ **PLAY/PAUSE** ▶I = CD-Wiedergabe und Unterbrechung

⑱ ▶▶ = Suchlauf vorwärts;
Titelwahl vorwärts;
▲ = Frequenzeinstellung;
Stellen der Stunden/Minuten vorwärts

◀◀ = Suchlauf rückwärts;
Titelwahl rückwärts;
▼ = Frequenzeinstellung;
Stellen der Stunden/Minuten rückwärts

⑲ **REPEAT** = Wahl der Wiederholfunktion;
PRESET = Abrufen der gespeicherten Sender aufwärts

⑳ **TUNER** = Rundfunkbetrieb

㉑ **RANDOM** = Wiedergabe in zufälliger Reihenfolge

㉒ Cassettenfachdeckel Deck A

㉓ **Laufwerktasten für Cassettendeck**
PAUSE = Pause/Unterbrechen der Wiedergabe
STOP/EJECT = Beenden der Wiedergabe, Öffnen des Cassettenfachdeckels
F.FWD = Schneller Vorlauf
REW = Schneller Rücklauf
PLAY = Cassettenwiedergabe
REC = Aufnahmetaste

Rückseite

㉔ **FM** (UKW) = Antennenbuchse 75 Ω

㉕ **AM** (MW) = Antennenanschlüße

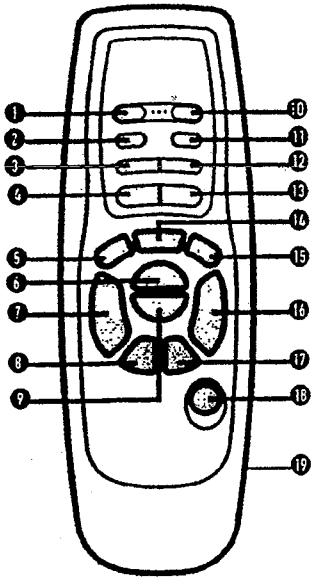
㉖ **BEAT CUT 1/2** = Vormagnetisierungsumschalter
MONO-/STEREO-Umschalter

㉗ **AUX** = Eingangsbuchsen für Zusatzgeräte z. B. Plattenspieler
R = rechter Kanal (rot)
L = linker Kanal (weiß)

㉘ Lautsprecheranschlußklemmen
R = rechter Kanal
L = linker Kanal

㉙ Batteriefach für 2 Mignonzellen (für den Sender-/Zeitspeicher)

㉚ **AC** = Netzanschlußbuchse 230 V/50 Hz



❶ **X-BASS** = Basssystem ein-/ausschalten

❷ **SLEEP** = Einschalten und Stellen der Sleep-Funktion

❸ **MODE REMAIN** = Umschalten der Display-Anzeige

❹ **MEMORY** = Speichertaste;
CLOCK = Stellen der Uhr-/Alarmzeit

❺ **CD** = Umschalten auf CD-Betrieb

❻ **REPEAT** = Wahl der Wiederholfunktion;
PRESET = Abrufen der gespeicherten Sender aufwärts

❼ ▶▶ = Suchlauf vorwärts;
Titelwahl vorwärts;
▲ = Frequenzeinstellung;
Stellen der Stunden/Minuten vorwärts

◀◀ = Suchlauf rückwärts;
Titelwahl rückwärts;
▼ = Frequenzeinstellung;
Stellen der Stunden/Minuten rückwärts

❽ **STOP** ■ = Beendet die CD-Wiedergabe

❾ **BAND** = Bereichswahl;
FM = UKW, **MW** = Mittelwelle

❿ **AUX** = Wiedergabe von Zusatzgerät

⓫ **TIMER** = Timerfunktion Ein-/Ausschalten

⓬ **INTRO** = Anspielen aller CD-Titel

⓭ **RANDOM** = Wiedergabe in zufälliger Reihenfolge

⓮ **TUNER** = Rundfunkbetrieb

⓯ **TAPE** = Cassettenbetrieb

⓰ **VOLUME** = Lautstärkereglertasten
- = verringert die Lautstärke
+ = erhöht die Lautstärke

⓱ **PLAY/PAUSE** ▶I = CD-Wiedergabe und Unterbrechung

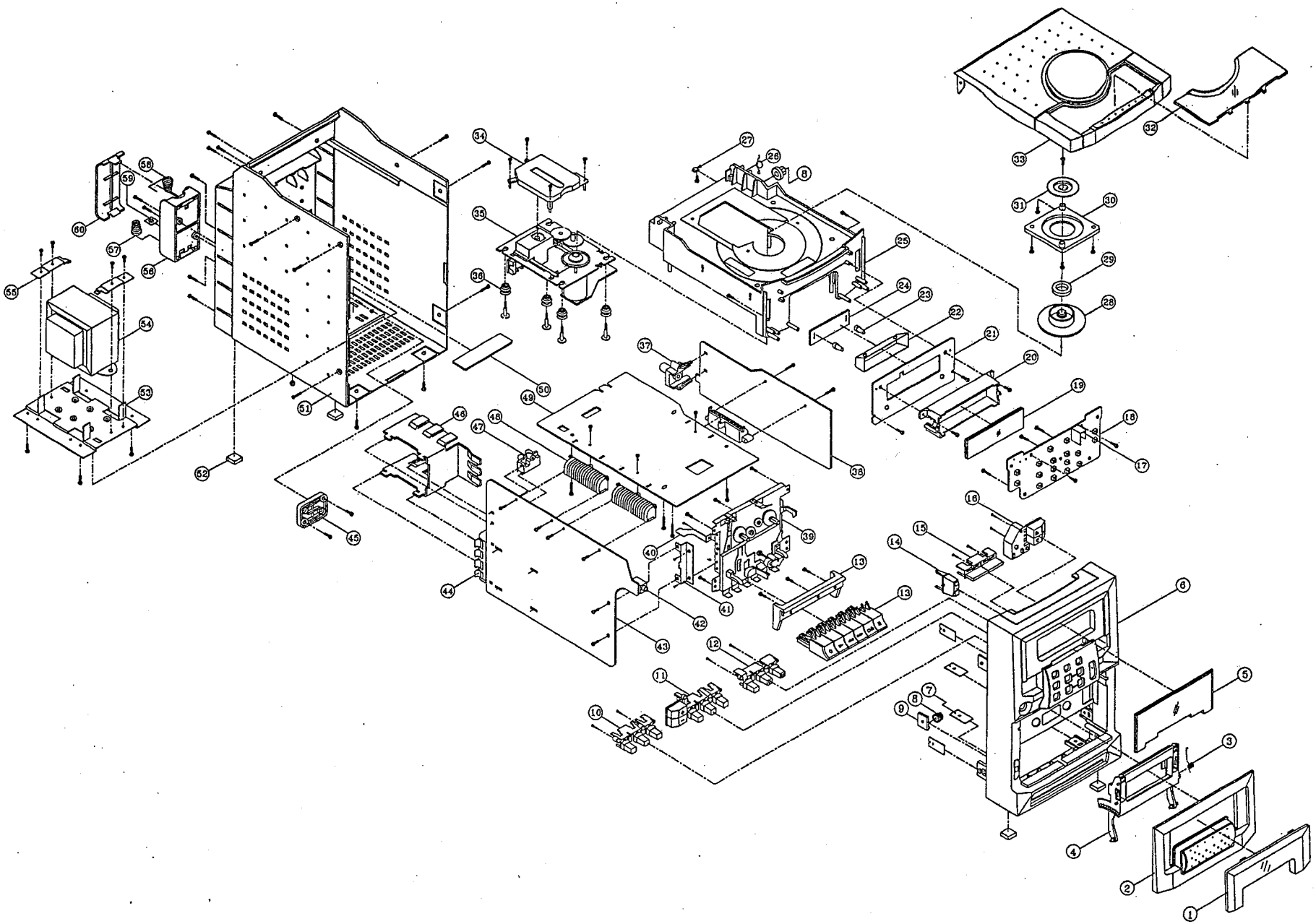
⓲ **POWER/STANDBY** = Einschalten aus Bereitschaft

⓳ Batteriefach für 2 Mignon-Batterien

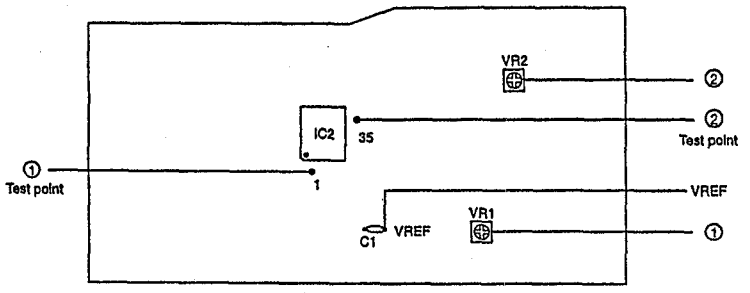
Einsetzen der Batterien

Öffnen Sie den rückseitigen Batteriefachdeckel ⓳ und setzen Sie zwei Batterien Microzellen 1,5 V (IEC LR 03) mit richtiger Polarität (Batterieboden zu den Spiralfedern) ein.

EXPLODED DRAWING - MAIN UNIT



CD SECTION



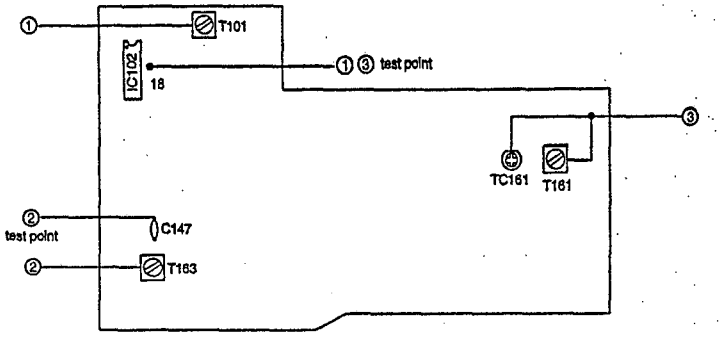
CD6201R-01-02

1. RF Adjustment
   Test point: IC2 (TA2065F) 1PIN and C1
   1) Connect an oscilloscope to the test points.
   2) Connect the oscilloscope output to Jitter Meter.
   3) Turn on power switch.
   4) Load test disc (TCD-782) and Play NO. 2.
   5) Adjust VR1 so that RF waveform is maximum and value of jitter is minimum (≤30ns).
   6) Turn off power switch.

2. EF Balance Adjustment
   Test point: IC2 (TA2065F) 35PIN and C1
   1) Connect an oscilloscope to the test points.
   2) Turn on power switch.
   3) Load test disc (TCD-782) and play.
   4) Press SKIP button so that EF waveform appear.
   5) Adjust VR2 so that EF waveform is symmetrical.
   6) Turn off power switch.

ALIGNMENT SET-UP PROCEDURES

TUNER SECTION



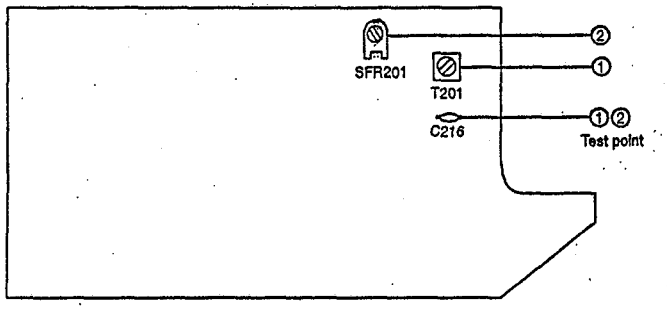
CD6201R-01-03

1. AM IF Adjustment
   Test point: IC102 (TA2057N) 18PIN
   Adjustment location: T101
   T101 ---------- 450 kHz waveform max.

2. MW Frequency Range Adjustment
   Test point: C147
   Adjustment location: T163
   Set the tuner frequency to be 522 kHz
   Adjust T163 so that the test point voltage is 1.7±0.05V.

3. MW Tracking Adjustment
   Test point: IC102 (TA2057N) 18PIN
   Adjustment location: T161, TC161
   T161 ---------- 630 ±40 kHz waveform max.
   TC161 ---------- 1431 ±40 kHz waveform max.

CASSETTE SECTION



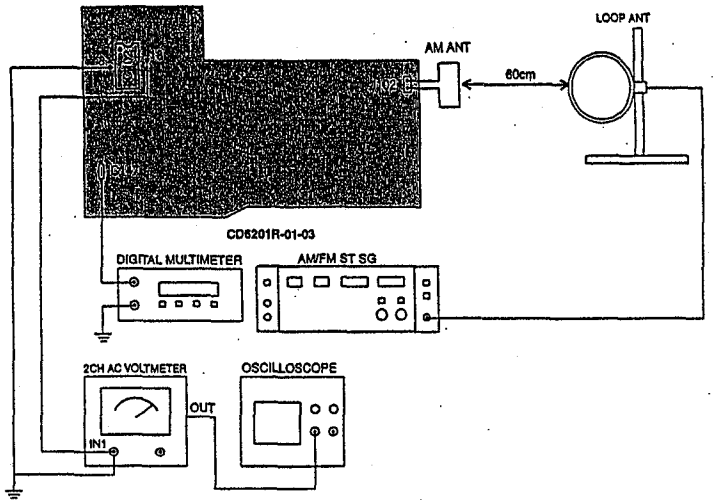
CD6201R-01-01

1. Bias Frequency Adjustment
   Test point: C216
   Adjustment location: T201
   T201 ---------- 60 ±2 kHz

2. Bias level Adjustment
   Test point: C216
   Adjustment location: SFR201
   SFR201 ----------10 ±0.5V

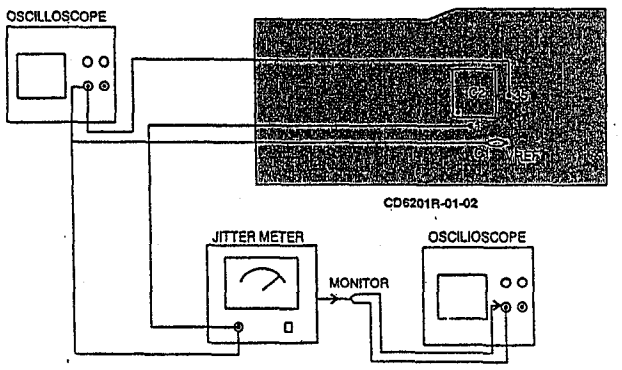
EQUIPMENT CONNECTION DIAGRAM

AM SECTION

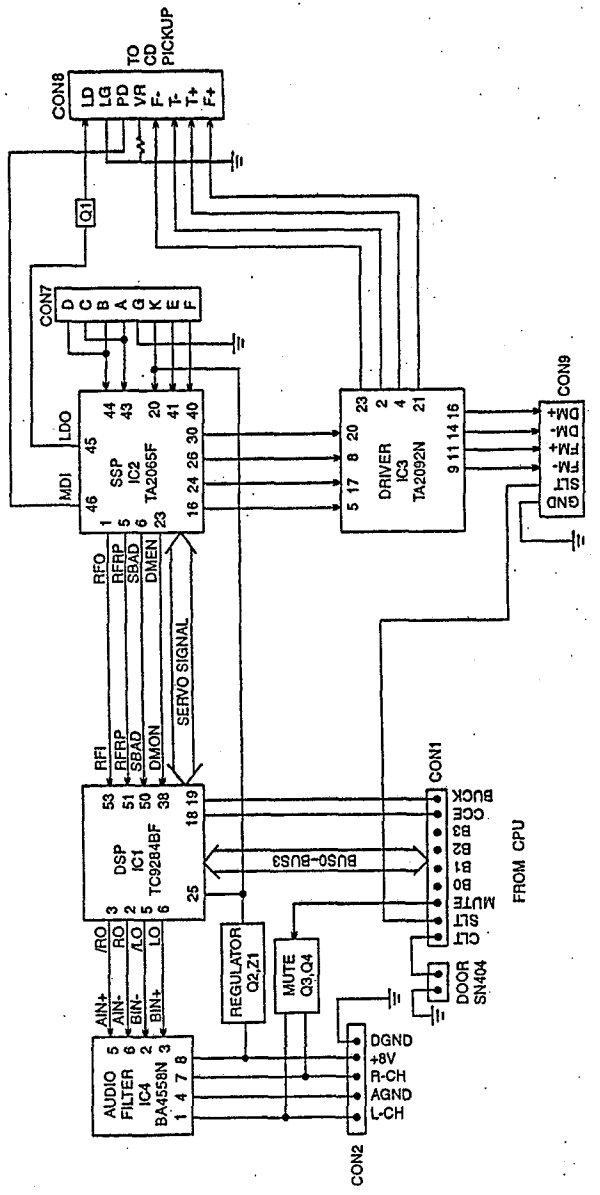


CASSETTE SECTION

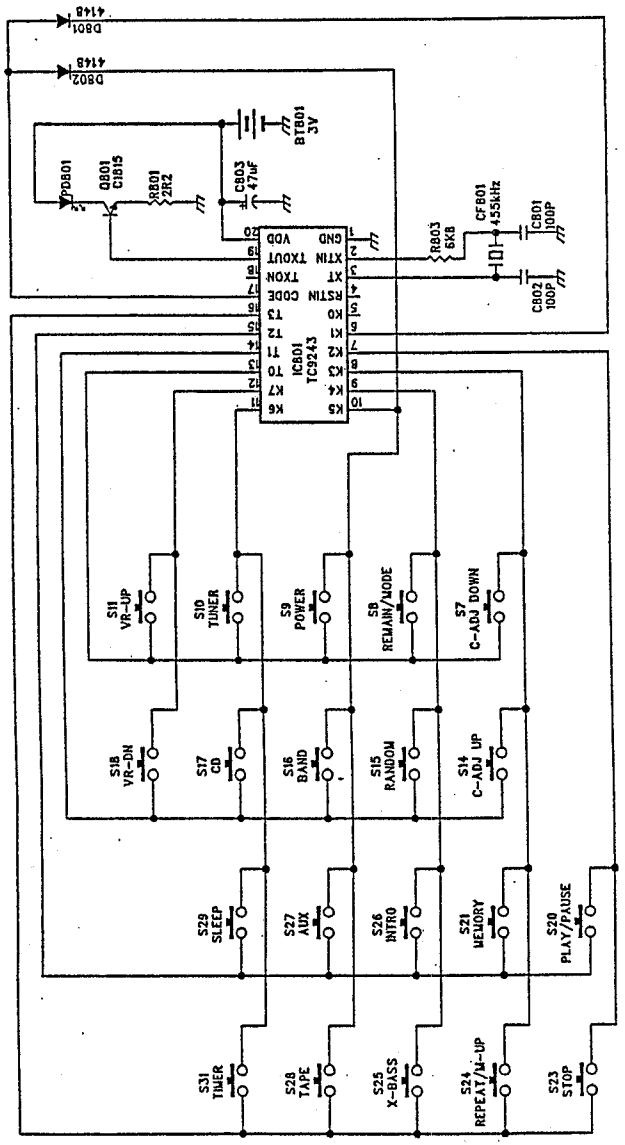
CD SECTION



CD SECTION



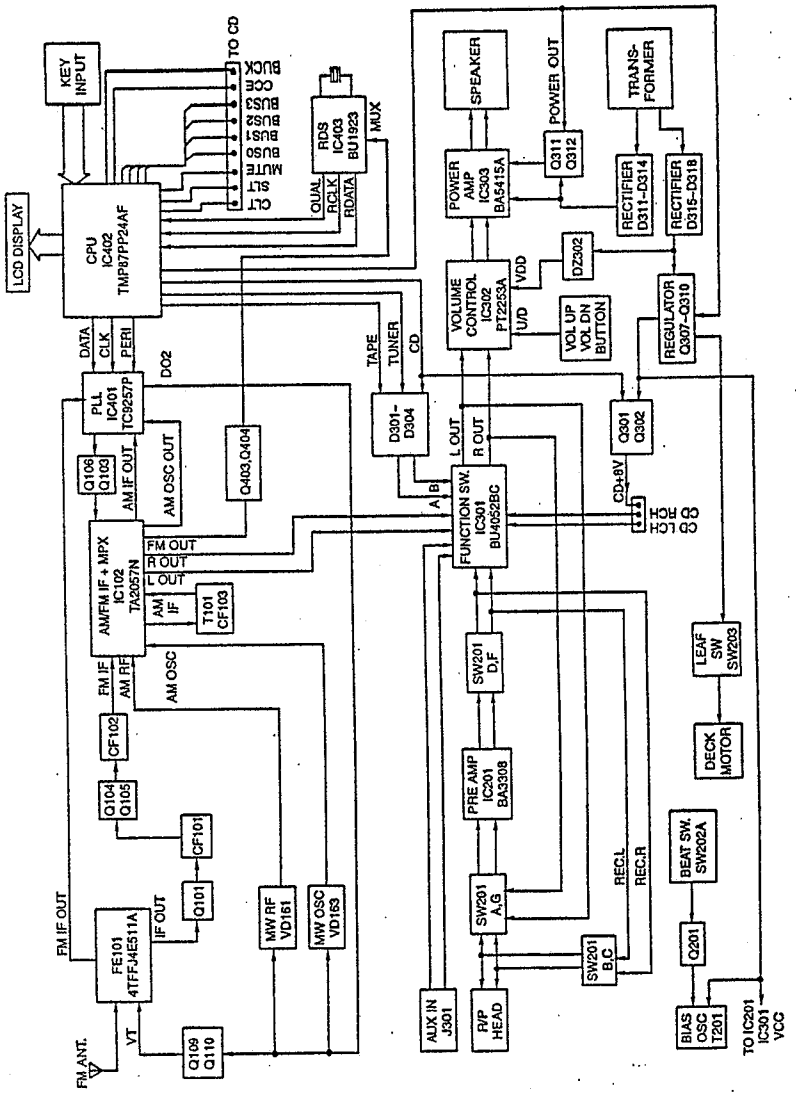
REMOTE SECTION



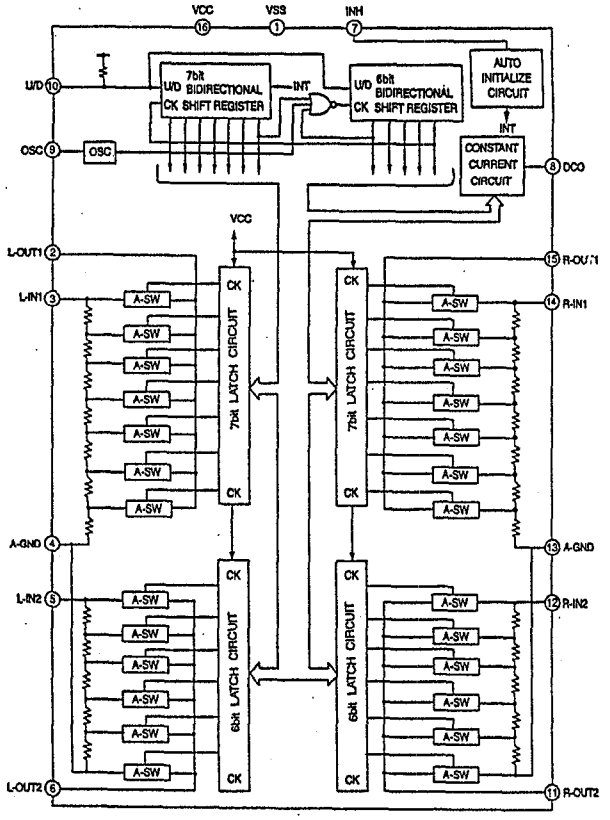
NOTE:
1. All resistance values are indicated in "ohms" (k=1000ohms.M=1000kohms).
2.All capacitance values are indicated in "μF" ($p=10^{6}$ μF).

BLOCK DIAGRAMS

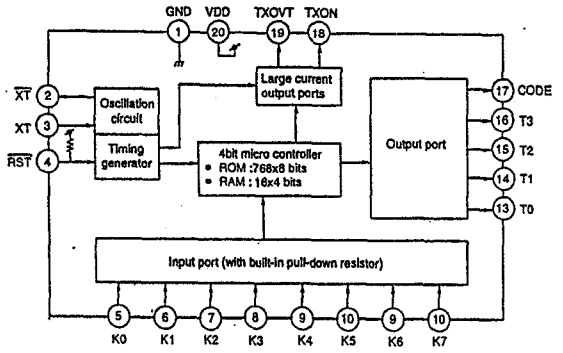
TUNER / CASSETTE / CONTROL & POWER AMP. SECTION



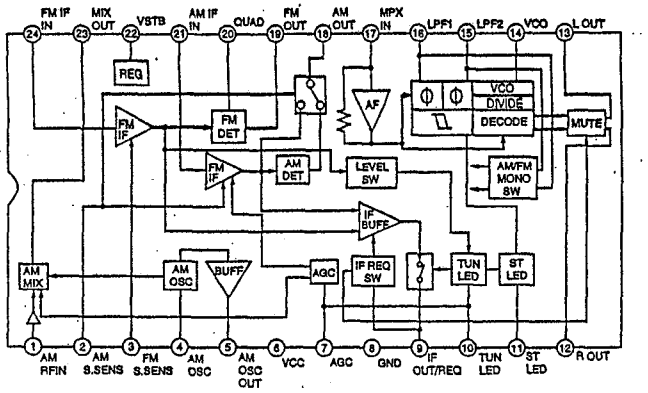
IC302 PT2253A



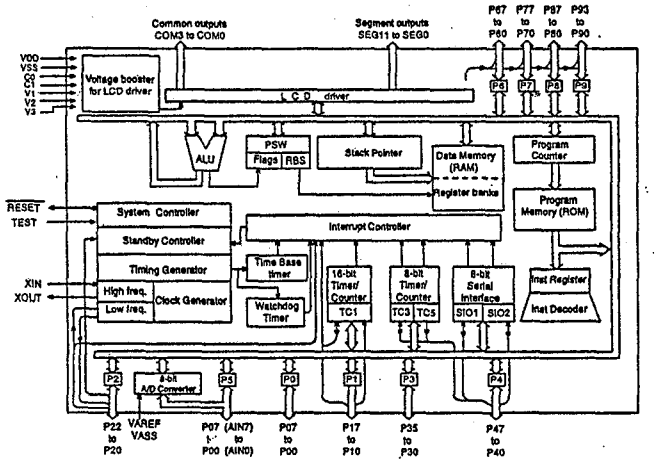
IC801 TC9243F



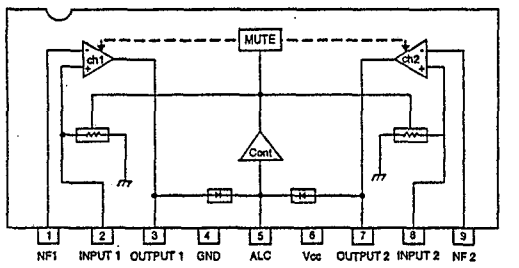
IC102 TA2057N



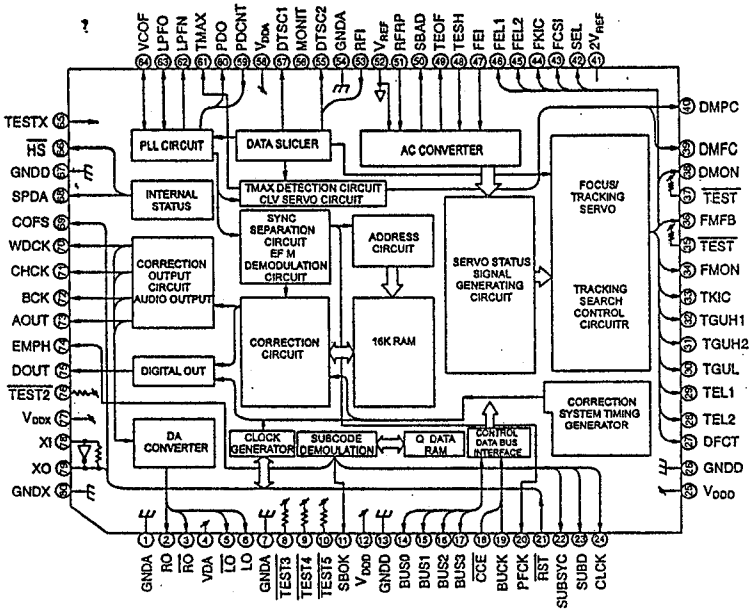
IC402 TMP87PP24AF



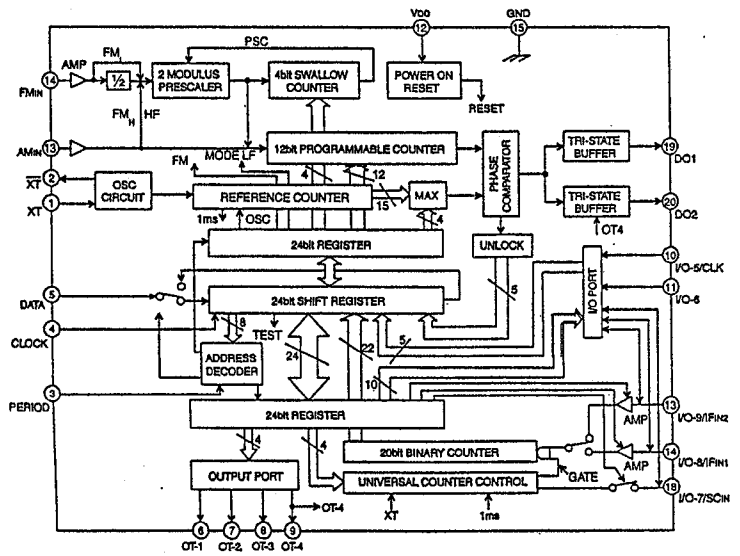
IC201 BA-3308



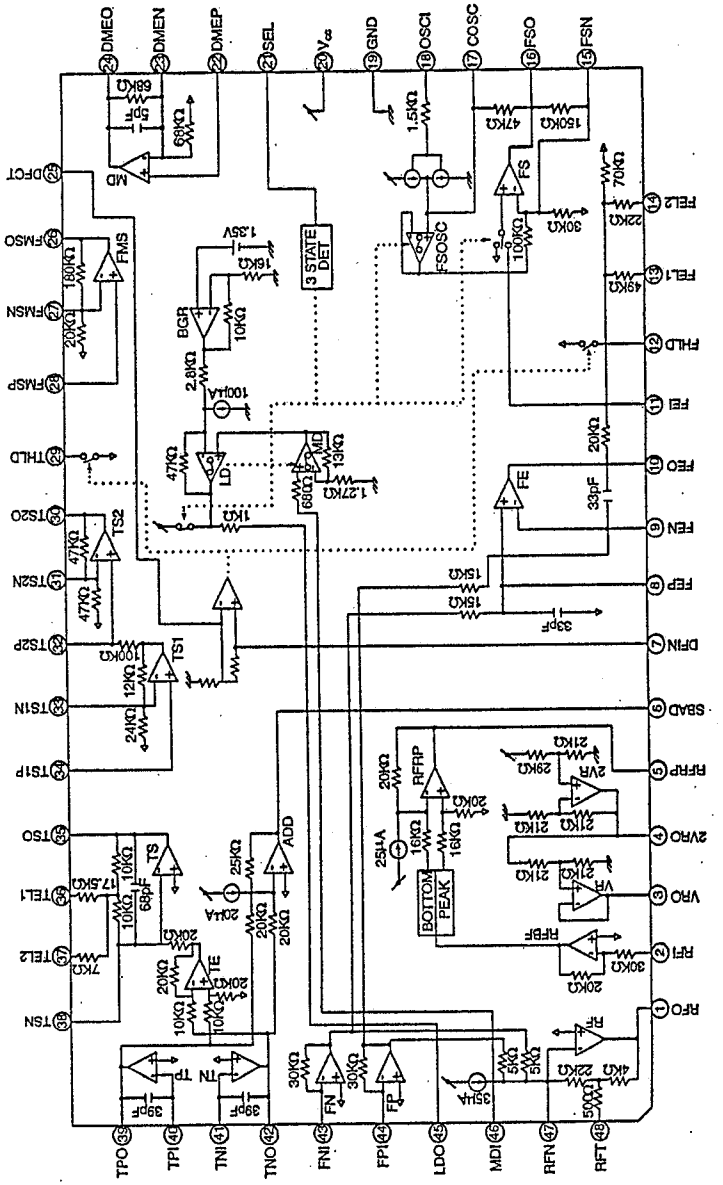
IC1 TC9284BF



IC401 TC9257P



IC2 TA2065F



VOLTAGE CHART

THE MEASURED VALUE IS DC VOLTAGE
UNIT:V
TUNER SECTION
TEST CONDITION: SET AM/FM TUNER ON ONE FREQUENCY

IC102 (TA2057N)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10	11	12
AM	2.00	0.32	0	2.00	4.98	5.28	0	0	0	2.52	5.32	1.57
FM	1.96	0.52	0	1.96	4.93	4.93	0.96	0	0	0	0	1.55
PIN'S NUMBER	13	14	15	16	17	18	19	20	21	22	23	24
AM	1.56	4.75	3.84	0.55	1.39	1.45	1.44	1.82	2.00	2.00	5.27	2.00
FM	1.54	4.22	3.70	3.57	1.37	0	0.87	1.11	1.96	1.96	4.93	1.96

IC401 (TC9257P)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10
AM	2.79	2.79	4.85	4.85	0	0	0	0	4.32	2.41
FM	2.76	2.76	4.83	4.82	0	0	0.73	0	2.06	1.91
PIN'S NUMBER	11	12	13	14	15	16	17	18	19	20
AM	2.45	5.56	2.75	0	0	2.71	2.48	2.49	2.11	1.16
FM	2.01	5.51	0	2.70	0	2.70	2.07	1.93	1.73	1.15

IC403 (BU1923)

PIN'S NUMBER	1	2	3	4	5	6	7	8
FM	2.60	0	2.56	2.53	4.97	0	0	2.55
AM	3.51	4.21	2.56	0	4.78	0	0	2.56
PIN'S NUMBER	9	10	11	12	13	14	15	16
FM	0	0	0	4.79	1.73	2.33	0	2.30
AM	0	0	0	4.78	1.77	2.33	0	2.30

TRANSISTOR	Q102(2SA952)			Q103(2SC1815)			Q106(2SA952)		
	E	C	B	E	C	B	E	C	B
FM	9.49	9.45	8.72	0	0.05	0.72	3.50	0	9.44
AM	9.54	0	9.45	0	9.42	0.52	0.55	0	0

TRANSISTOR	Q109(2SC1815)			Q110(2SC1815)			Q105(2SC1417)		
	E	C	B	E	C	B	E	C	B
FM	0.64	2.04	1.16	0	2.04	0.64	2.09	8.24	2.79

TRANSISTOR	Q104(2SC1417)			Q101(2SK161)		
	E	C	B	G	D	S
FM	2.09	8.59	2.79	0	7.66	0

TRANSISTOR	Q161(2SK161)		
	G	S	D
AM	0	0.54	5.30

TRANSISTOR	Q107(2SC1815)		
	E	C	B
MONO	0.68	0	0
ST	0	3.55	0

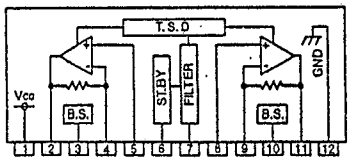
CASSETTE & POWER SECTION
TEST CONDITION: TAPE PLAY

IC201 (BA-3308)

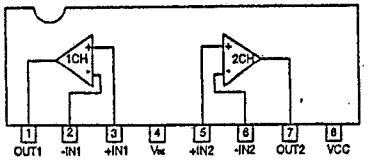
PIN'S NUMBER	1	2	3	4	5	6	7	8	9
PLAY	1.78	0	1.79	0	0	9.24	1.80	0	1.79
REC	1.78	0	1.80	0	0	9.24	1.80	0	1.79

IC LEAD IDENTIFICATION AND INTERNAL DIAGRAMS

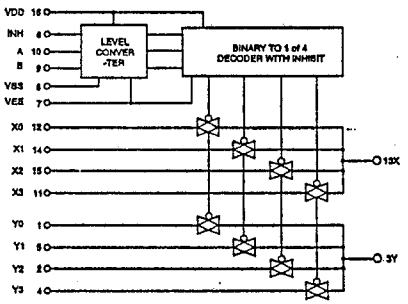
IC303 BA5415A



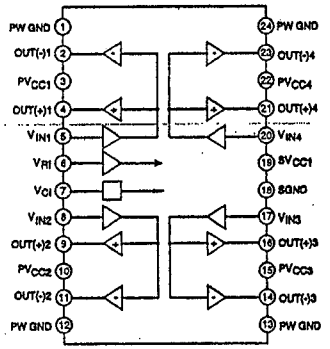
IC4 BA4558N



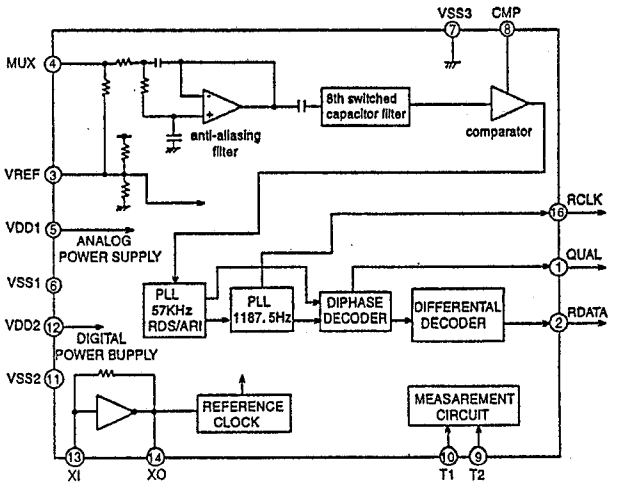
IC301 BU4052BC



IC3 TA2092N



IC403 BU1923



VOLTAGE CHART - CONTINUED

IC2 (TA2065F)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10	11	12
	2.17	2.05	2.07	4.12	2.47	2.54	2.54	2.05	2.05	2.04	2.07	2.01
PIN'S NUMBER	13	14	15	16	17	18	19	20	21	22	23	24
	2.05	2.05	2.06	2.05	2.03	2.45	0	4.87	4.85	2.10	2.07	2.20
PIN'S NUMBER	25	26	27	28	29	30	31	32	33	34	35	36
	2.30	2.05	2.07	2.07	2.02	2.07	2.06	2.07	2.07	2.07	2.07	2.07
PIN'S NUMBER	37	38	39	40	41	42	43	44	45	46	47	48
	2.07	2.07	1.78	2.06	2.03	1.77	2.04	2.05	3.68	0.20	2.10	2.31

IC3 (TA2092N)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10	11	12
	0	4.29	9.38	4.55	2.09	2.09	4.42	2.08	4.41	9.37	4.45	0
PIN'S NUMBER	13	14	15	16	17	18	19	20	21	22	23	24
	0	4.04	9.38	4.82	2.18	0	9.38	2.22	4.47	9.38	4.44	0

IC4 (BA4558N)

PIN'S NUMBER	1	2	3	4	5	6	7	8
	5.01	4.54	4.52	0	4.51	4.50	4.96	7.42

CONTROL SECTION
TEST CONDITION: CD PLAY & TUNER

IC402 (TMP87PP24AP)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10
CD	0	1.70	1.70	4.72	\	\	0	0.99	2.97	5.29
PIN'S NUMBER	11	12	13	14	15	16	17	18	19	20
CD	0	4.87	0.03	0.03	4.87	0.02	0.05	4.89	4.87	0.02
PIN'S NUMBER	21	22	23	24	25	26	27	28	29	30
CD	0.02	5.34	1.71	4.79	1.72	0	0	0.06	\	\
PIN'S NUMBER	31	32	33	34	35	36	37	38	39	40
CD	\	\	\	0.23	0.17	0.16	0.11	0.07	4.84	4.99
PIN'S NUMBER	41	42	43	44	45	46	47	48	49	50
CD	5.00	\	\	\	5.32	0.02	4.91	4.99	0.02	0.02
PIN'S NUMBER	51	52	53	54	55	56	57	58	59	60
CD	4.86	0.07	4.60	\	\	\	\	\	1.45	1.44
PIN'S NUMBER	61	62	63	64	65	66	67	68	69	70
CD	1.46	1.45	1.45	1.46	1.46	1.46	1.46	1.46	1.45	1.45
PIN'S NUMBER	71	72	73	74	75	76	77	78	79	80
CD	1.45	1.45	1.45	1.46	1.47	1.46	1.46	1.46	1.46	1.46
PIN'S NUMBER	81	82	83	84	85	86	87	88	89	90
CD	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46	1.46
PIN'S NUMBER	91	92	93	94	95	96	97	98	99	100
CD	\	1.46	1.46	1.46	1.46	2.83	1.93	1.70	0.74	4.86

REMOTE SECTION
TEST CONDITION: QUIESCENT VOLTAGE

IC801 (TC9243F)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10
	0	3.00	2.96	3.00	0	0	0	0	0	0
PIN'S NUMBER	11	12	13	14	15	16	17	18	19	20
	0	0	3.00	3.00	3.00	3.00	0	3.00	0	3.00

VOLTAGE CHART - CONTINUED

IC301 (BU4052BC)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10
TAPE	3.05	0.06	0.85	0.42	0.71	0	0	0	3.67	6.32
TUNER	2.31	0.19	0.21	0.20	0.27	0	0	0	5.18	5.20
CD	1.64	0.17	0.16	0.19	0	0	0	0	4.87	1.87
AUX	0.16	0.16	0.15	0.16	0.02	0	0	0	1.94	2.03
PIN'S NUMBER	11	12	13	14	15	16				
TAPE	0.28	3.58	0.25	0.23	0.28	9.51				
TUNER	0.23	2.20	0.18	0.14	0.22	9.40				
CD	0.20	1.71	0.19	0	0.18	9.51				
AUX	0.19	0.18	0.14	0	0.17	9.66				

IC302 (PT2253A)

PIN'S NUMBER	1	2	3	4	5	6	7	8
TAPE	0	3.89	3.87	3.88	3.87	3.87	7.83	7.82
PIN'S NUMBER	9	10	11	12	13	14	15	16
TAPE	7.79	7.82	3.88	3.88	3.88	3.86	3.88	7.83

IC303 (BA5415A)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10	11	12
TAPE	18.09	8.92	15.34	0.59	0	12.92	16.21	0	0.59	15.46	0.06	0

TRANSISTOR	Q201(2SC1815)			Q202(2SC1815)		
	E	C	B	E	C	B
REC	0.02	15.34	0.02	0.11	6.10	0.76

TRANSISTOR	Q301(2SB562)			Q302(2SC1815)			Q306(2SC1815)			Q307(2SB1586)		
	E	C	B	E	C	B	E	C	B	E	C	B
CD	9.55	9.44	9.65	0	0.06	0.71	0	0	1.01	15.44	9.67	14.72

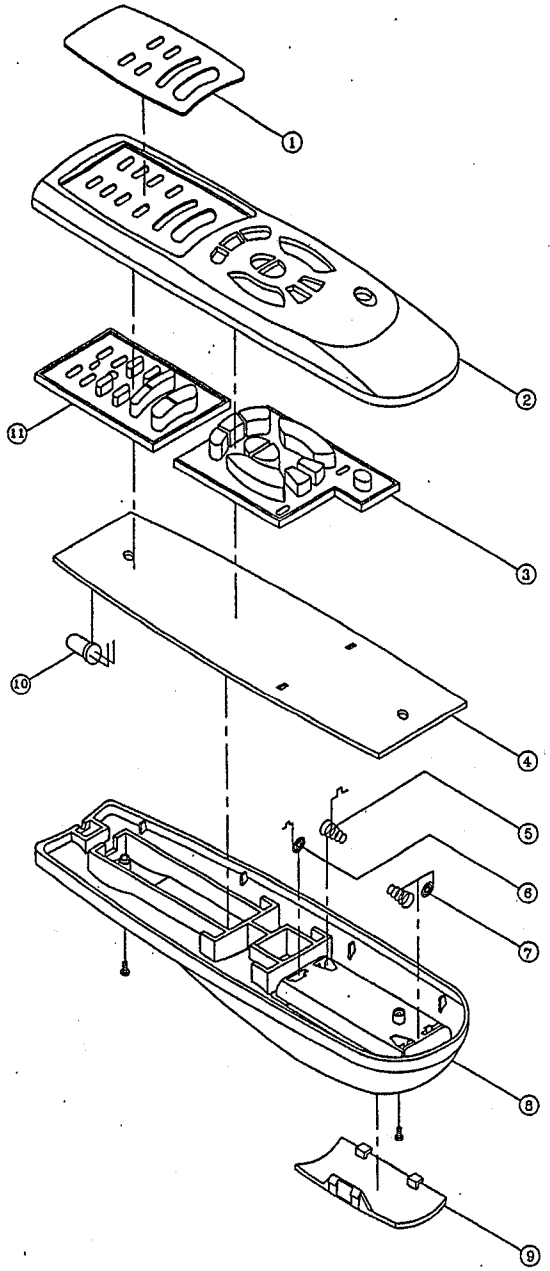
TRANSISTOR	Q309(2SB562)			Q310(2SC1815)		
	E	C	B	E	C	B
TAPE	15.36	15.32	14.73	0	0.09	0.72

CD SECTION
TEST CONDITION: CD PLAY

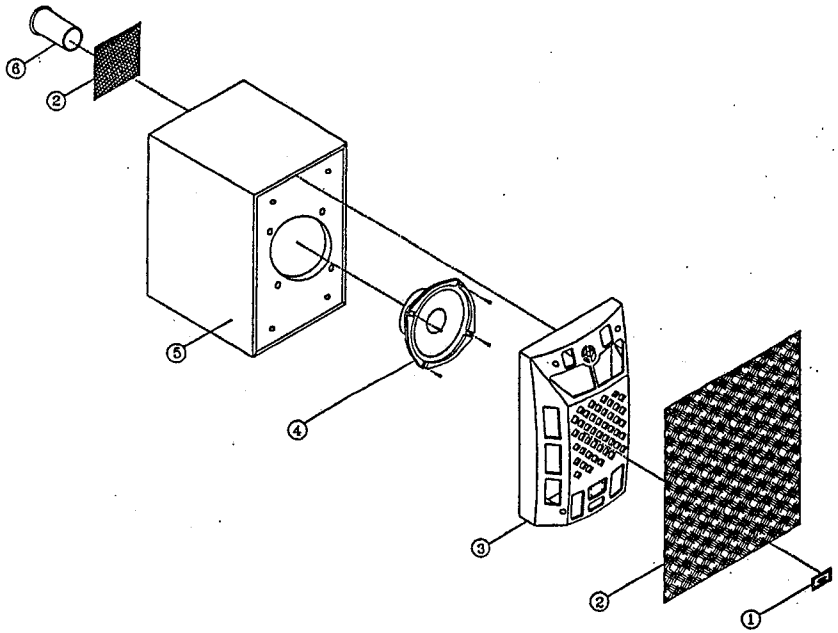
IC1 (TC9284BF)

PIN'S NUMBER	1	2	3	4	5	6	7	8	9	10
	0	2.59	2.81	4.87	2.82	2.57	0	4.84	4.84	4.85
PIN'S NUMBER	11	12	13	14	15	16	17	18	19	20
	4.53	4.87	0	4.75	4.76	7.74	4.74	4.72	4.80	2.27
PIN'S NUMBER	21	22	23	24	25	26	27	28	29	30
	4.86	0	0	0	4.88	0	2.07	2.07	2.07	2.07
PIN'S NUMBER	31	32	33	34	35	36	37	38	39	40
	2.05	2.07	1.70	2.07	4.84	1.81	4.84	2.07	2.07	2.27
PIN'S NUMBER	41	42	43	44	45	46	47	48	49	50
	4.12	4.85	2.45	2.45	2.07	2.06	2.07	2.07	2.07	2.51
PIN'S NUMBER	51	52	53	54	55	56	57	58	59	60
	2.85	2.07	2.10	0	2.38	4.87	2.36	4.88	4.88	2.07
PIN'S NUMBER	61	62	63	64	65	66	67	68	69	70
	2.03	2.07	1.98	1.40	0	4.84	0	0	1.62	2.42
PIN'S NUMBER	71	72	73	74	75	76	77	78	79	80
	2.42	2.41	2.47	0	2.10	4.81	4.88	1.80	1.81	0

EXPLODED DRAWING - REMOTE

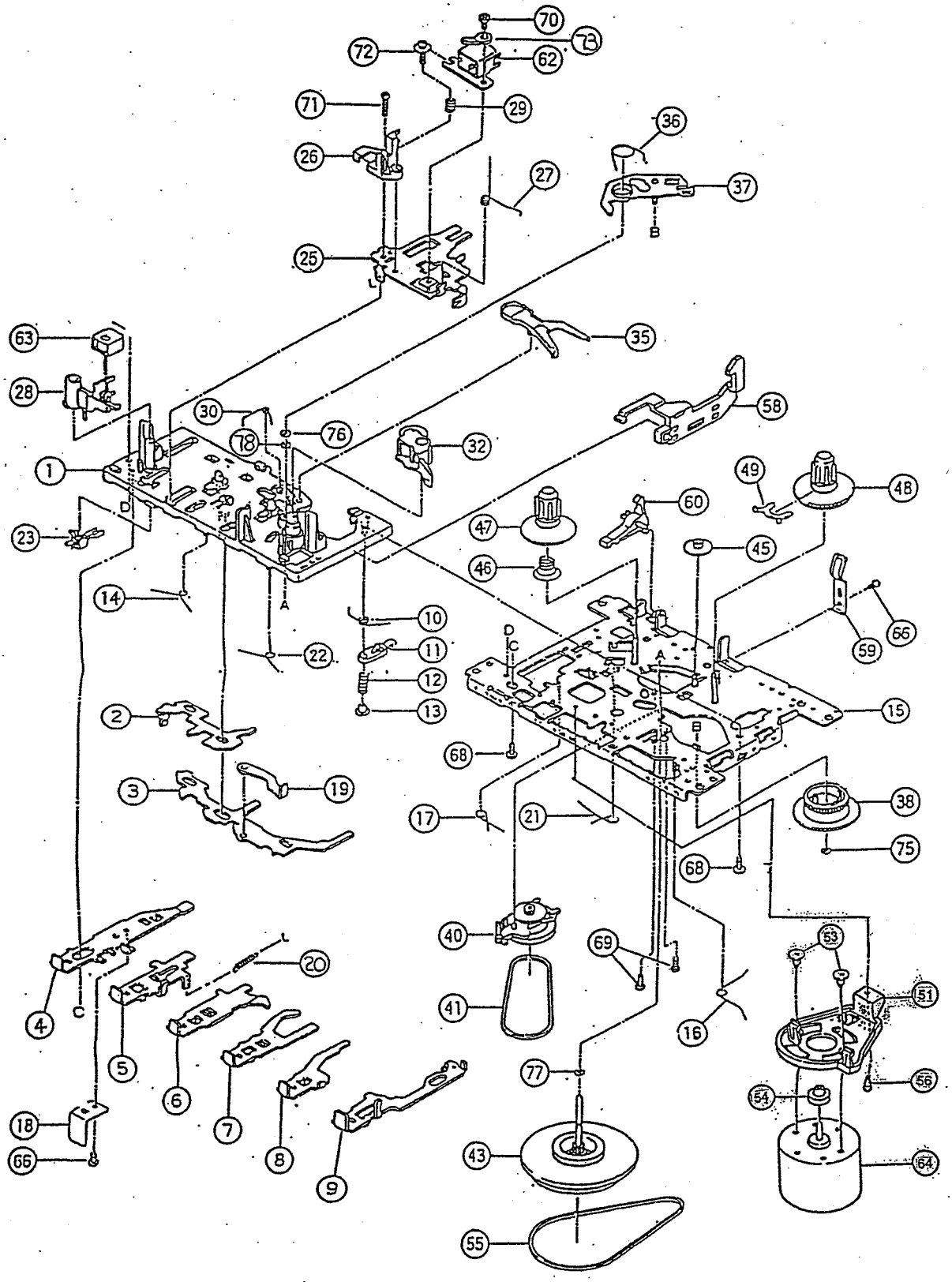


EXPLODED DRAWING - MAIN SPEAKER



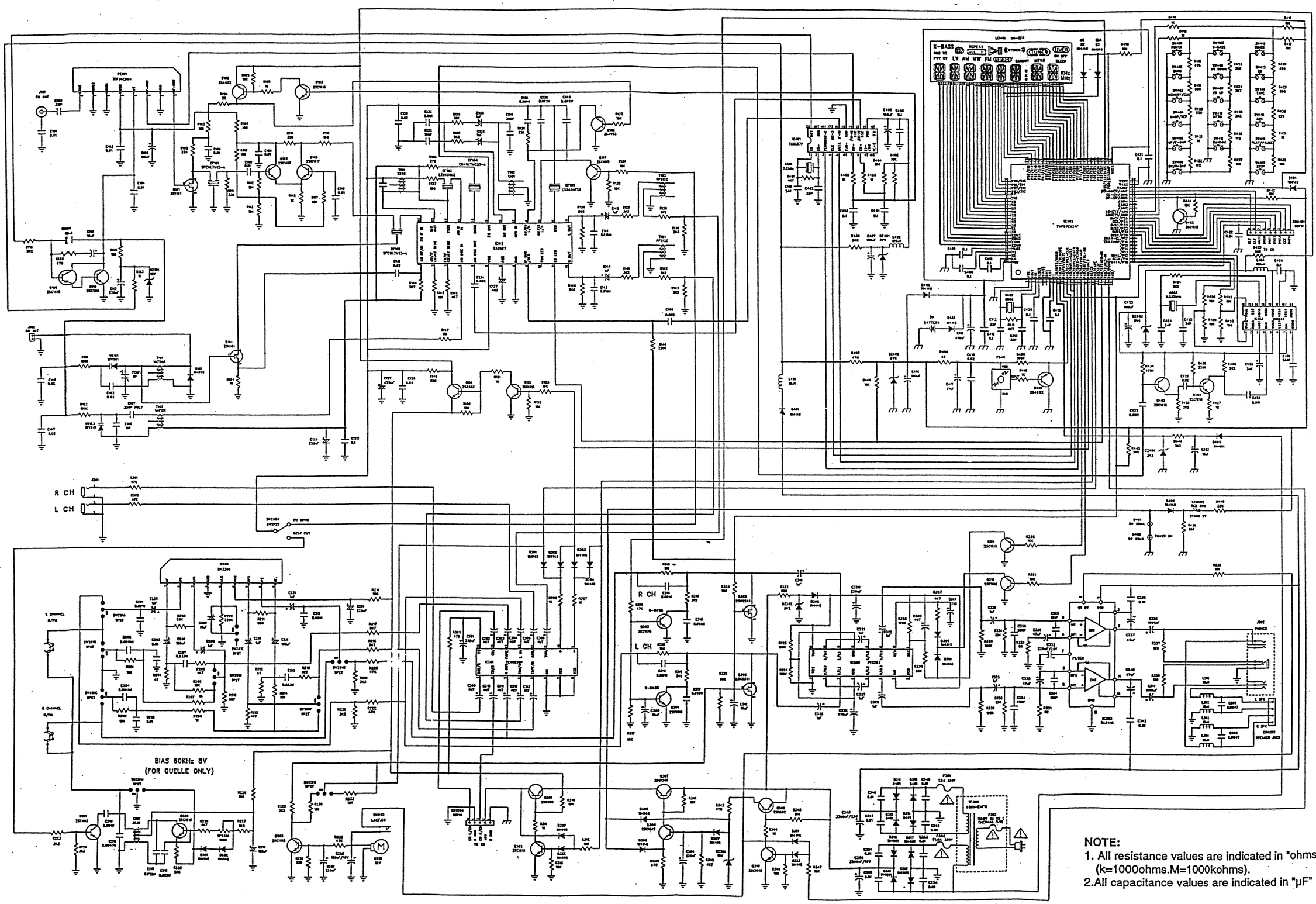
EXPLODED DRAWING - CASSETTE DECK

TK20FX-S805-900



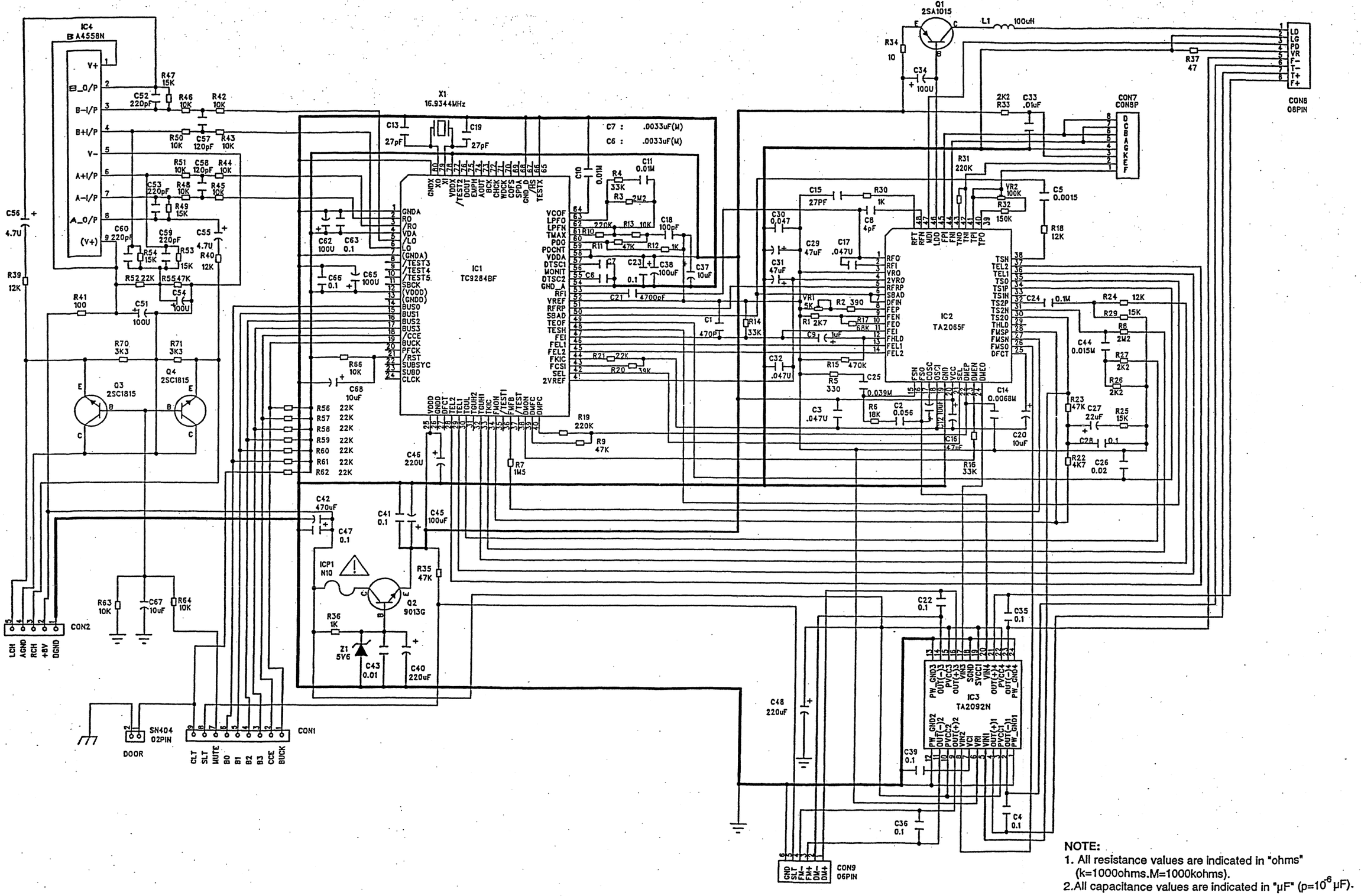
SCHEMATIC DIAGRAMS

TUNER/CASSETTE/CONTROL & POWER AMP. SECTION



NOTE:
1. All resistance values are indicated in "ohms" (k=1000ohms.M=1000kohms).
2.All capacitance values are indicated in "μF" ($p=10^{-6}$ μF).

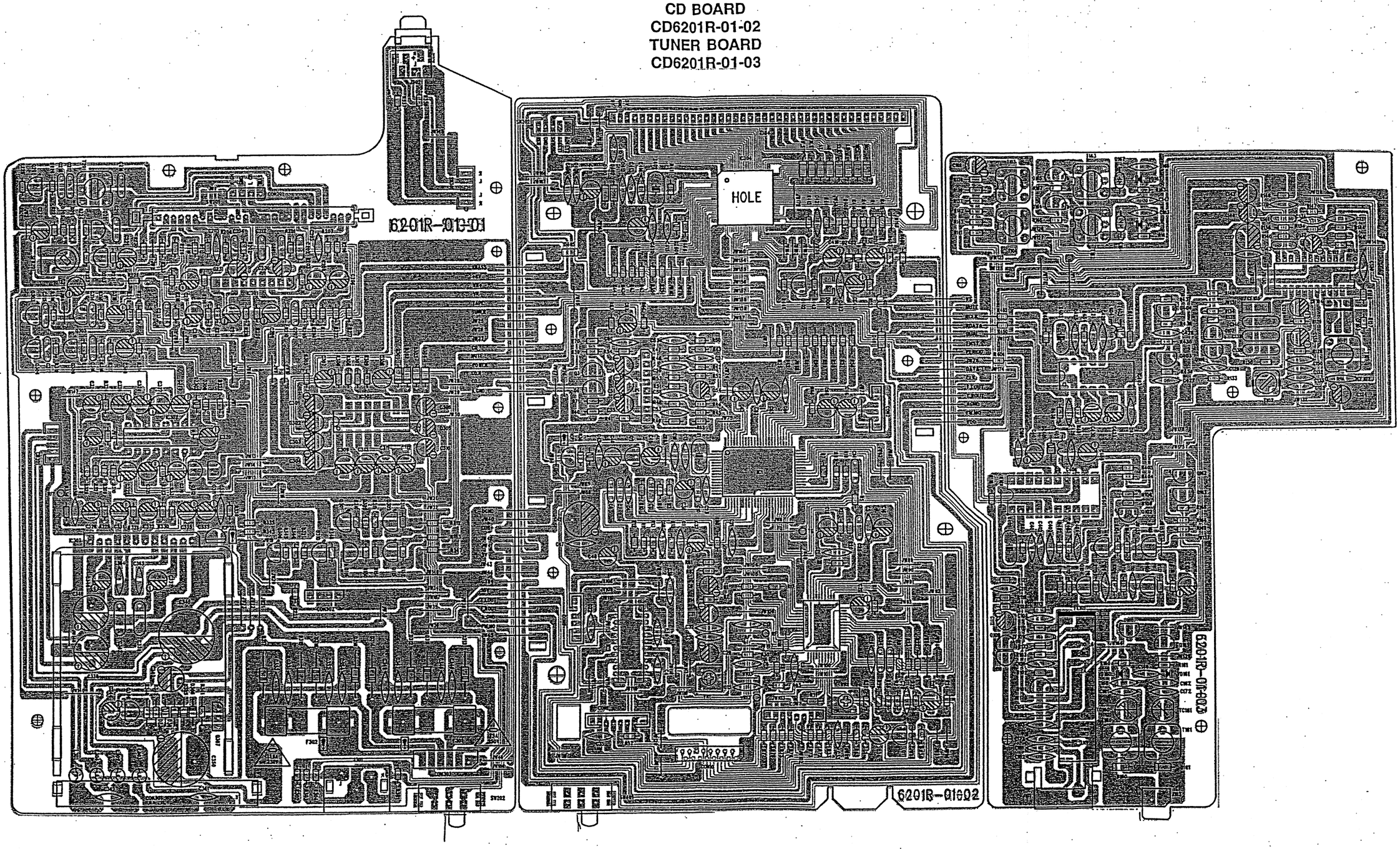
CD SECTION



NOTE:

1. All resistance values are indicated in "ohms" (k=1000ohms.M=1000kohms).
2. All capacitance values are indicated in "µF" ($p=10^{-6}$ µF).

MAIN BOARD
CD6201R-01-01
CD BOARD
CD6201R-01-02
TUNER BOARD
CD6201R-01-03



WIRING DIAGRAM